WATER QUALITY REPORT 2020

Why Provide a Water Quality Report?

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The sources of tap and bottled drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells.

City of Bothell™

OUR DRINKING WATER SOURCES

The South Fork Tolt River Watershed and Cedar River Watershed supply nearly all the drinking water in the greater Seattle area. City of Bothell's water system is predominately supplied by water originating from the pristine South Fork Tolt River Watershed, located east of Carnation. These watersheds are in remote, uninhabited areas of the Cascade Mountains and are primarily owned and managed by SPU. To protect water quality, SPU strictly enforces a watershed protection plan, which prohibits agricultural, industrial, and recreational activities in and around the watersheds. In addition to providing a high quality drinking water source, the watersheds also provide habitat for fish and wildlife.

The Tolt River Watershed provides about 30% of the drinking water to the 1.3 million customers served. The water from melting snow and rainfall is collected in the watershed and flows downstream, where it enters a filtration and ozonation facility. After treatment, water is brought to Bothell and other eastside communities through the Tolt River Pipeline. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. In some cases, this includes radioactive material. Water can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

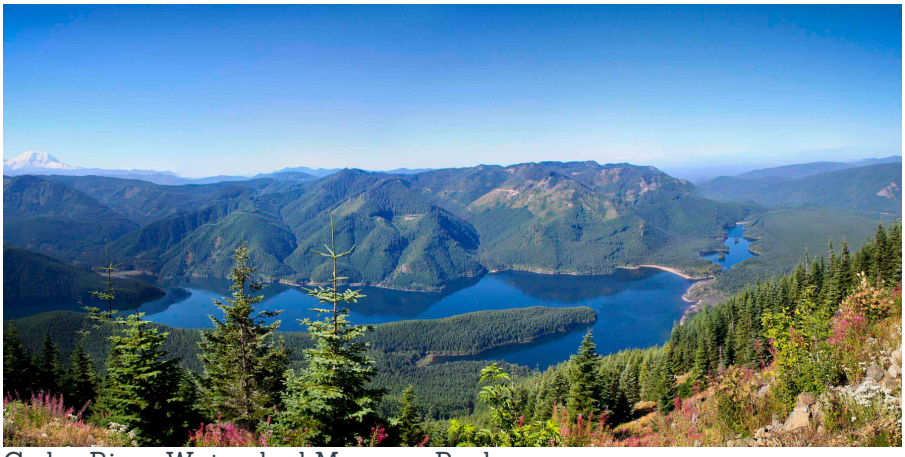
Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants which can be naturally occurring or be the result of oil and gas production and mining activities.



Cedar River Watershed Masonry Pool

WATER TREATMENT

The Purpose of Disinfection and the Resulting Disinfection By-Products

Drinking water is disinfected to eliminate bacteria, viruses, and Giardia. Inadequate disinfection may lead to acute gastrointestinal illnesses. However, as the disinfectant reacts with naturally occurring organic matter in the water, disinfection by-products are formed. Disinfection by-products have been linked to increased cancer risks from drinking water containing high levels (greater than the MCLs) over many years.

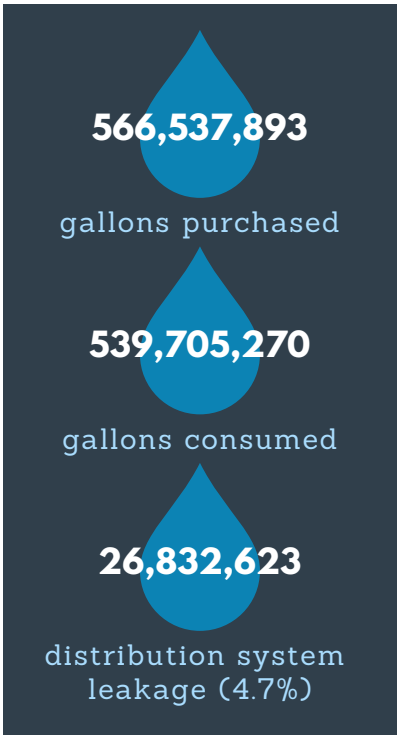
New drinking water regulations provide a balance between required levels of disinfection and the resulting disinfection by-products. SPU's Tolt Filtration Plant improves Bothell's ability to provide a higher level of microbial protection while maintaining or reducing disinfection by-product levels.

Cedar River Watershed field trip

Tolt Treatment Facility

Nature Vision education program

WATER USE EFFICIENCY



Bothell is one of 22 utilities that purchase wholesale water from Seattle Public Utilities (SPU) and is part of the Regional Water Conservation Program administered by SPU.

The Saving Water Partnership (SWP) – which is made up of the City of Bothell and 18 water utility partners – has set a ten-year conservation goal: keep the total average annual retail water use of SWP members under 110 mgd through 2028, despite forecasted population growth, by reducing per capita water use. For 2019, the Saving Water Partnership met the goal, using 94.0 mgd.

State regulations require water suppliers to maintain a distribution system leakage of 10% or less for a rolling three-year average, recognizing that some leakage is unavoidable. Our leakage meets state requirements and is considered relatively low.

2019 WATER QUALITY MONITORING RESULTS

Cedar River and South Fork Tolt River Watersheds

Detected Compounds	Units	EPA's Allowable Limits MCLG	EPA's Allowable Limits MCL	Levels in Cedar Water Average	Levels in Cedar Water Range	Levels in Tolt Water Average	Levels in Tolt Water Range	Typical Sources
Raw Water								
Total Organic Carbon	ppm	NA	TT	0.5	0.3 to 0.8	1.1	1.0 to 1.3	Naturally present in the environment
Finished Water								
Turbidity	NTU	NA	TT	0.3	0.2 to 1.8	0.03	0.01 to 0.17	Soil runoff
Aresnic	ppb	0	10	0.4	0.4 to 0.6	0.4	0.3 to 0.4	Erosion of natural deposits
Barium	ppb	2000	2000	1.6	1.4 to 1.9	1.3	1.1 to 1.5	Erosion of natural deposits
Bromate	ppb	0	10	ND	ND	0.2	ND to 0.2	By-product of drinking water disinfection
Nitrate	ppm	10	10	ND	One sample	0.11	One sample	Erosion of natural deposits
Chromium	ppb	100	100	0.27	0.25 to 0.33	0.2	ND to 0.24	Erosion of natural deposits
Fluoride	ppm	4	4	0.7	0.6 to 0.8	0.7	0.6 to 0.8	Water additive which promotes strong teeth
Total Trihalomethanes	ppb	NA	80	ND	ND	55	19.6 to 70.1	By-products of drinking water chlorination
Haloacetic Acids (5)	ppb	NA	60	ND	ND	30	10.3 to 36.6	
Chlorine	ppm	MRDLG = 4	MRDL = 4	Average = 0.8 Range = 0.05 to 1.43				Water additive used to control microbes

Definitions

MCL: Maximum Contaminant Level
The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCGLs as feasible using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL: Maximum Residual Disinfectant Level
The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal
The level of a drinking water disinfectant below which there is no know or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NTU: Nephelometric Turbidity Unit
Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2019 is 5 NTU, and for the Tolt supply it was 0.3 NTU for at least 95% of the samples in a month. 100% of Tolt samples in 2019 were below 0.3 NTU.

TT: Treatment Technique
A required process intended to reduce the level of a contaminant in drinking water.

AL: Action Level
The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

ppm: 1 part per million = 1 mg/L = 1 milligram per liter

ppb: 1 part per billion = 1 µg/L = 1 microgram per liter

1 ppm = 1000 ppb

MGD: million gallons per day

CDC: Centers for Disease Control

EPA: Environmental Protection Agency

FDA: Food and Drug Administration

SPU: Seattle Public Utilities

SWP: Saving Water Partnership

NA: Not Applicable

ND: Not Detectable

Information on the Potential for Health Concerns Relating to Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Bothell is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

LEAD AND COPPER MONITORING RESULTS

City of Bothell - Tolt Water

Parameter and Units	MCLG	AL	2017 Results*	Homes Exceeding Action Level	Sources
Lead, ppb	0	15	1.1	0 of 4	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.024	0 of 4	

*** 90th Percentile: i.e. 90 percent of the samples were less than the values shown. The City of Bothell will test lead and copper levels in July 2020. Results will be included in the 2021 Water Quality Report.**

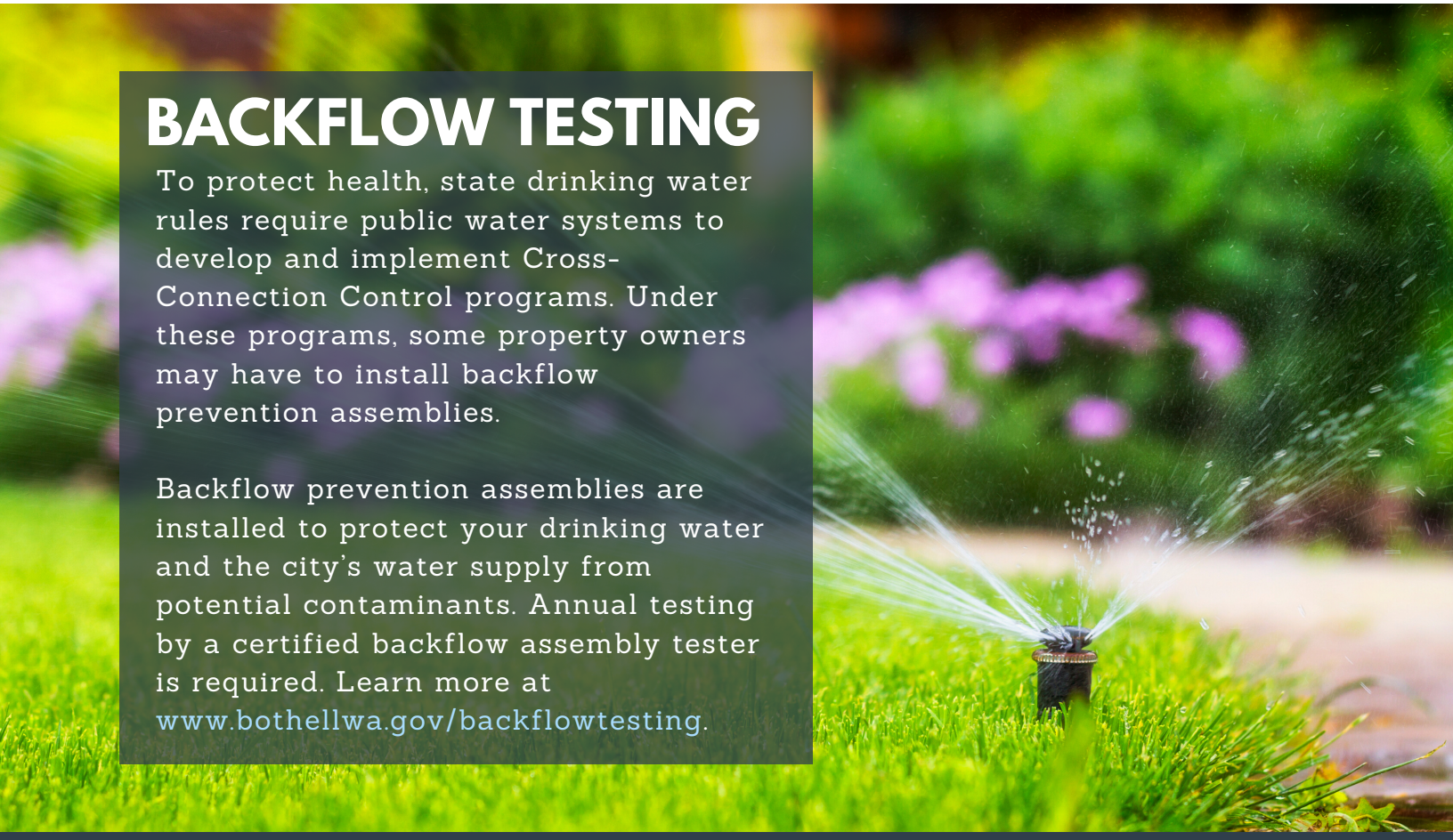
UNREGULATED CONTAMINANT MONITORING

Providing a basis for future regulatory actions to protect public health

Monitoring is required by EPA regulation for contaminants that do not have defined health-based standards and may be regulated in the future. Contaminants were selected through a data-driven process that considered adverse health effects (potency and severity) and occurrence (prevalence and magnitude) but additional health information is needed to know whether the contaminants pose a health risk. The Unregulated Contaminants Monitoring Rule 4 program is used by the EPA to determine the occurrence of contaminants in drinking water systems. For more information about the program, visit www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule.

The City of Bothell's 2019 Unregulated Contaminant Monitoring Results

Analyte and Units	Range	Average	Sources
Manganese, ppb	1.4 to 1.4	1.4	Erosion of natural deposits
Bromochloroacetic acid, ppb	0.36 to 0.77	0.57	By-products of drinking water chlorination
Bromodichloroacetic acid, ppb	1.1 to 1.2	1.15	
Chlorodibromoacetic Acid, ppb	ND	ND	
Dichloroacetic acid, ppb	4.3 to 13	8.8	
Trichloroacetic acid, ppb	13 to 15	14	



BACKFLOW TESTING

To protect health, state drinking water rules require public water systems to develop and implement Cross-Connection Control programs. Under these programs, some property owners may have to install backflow prevention assemblies.

Backflow prevention assemblies are installed to protect your drinking water and the city's water supply from potential contaminants. Annual testing by a certified backflow assembly tester is required. Learn more at www.bothellwa.gov/backflowtesting.

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Northshore Utility District
425-398-4400

Woodinville Water District
425-487-4100

EPA's Safe Drinking Water Hotline
1-800-426-4791

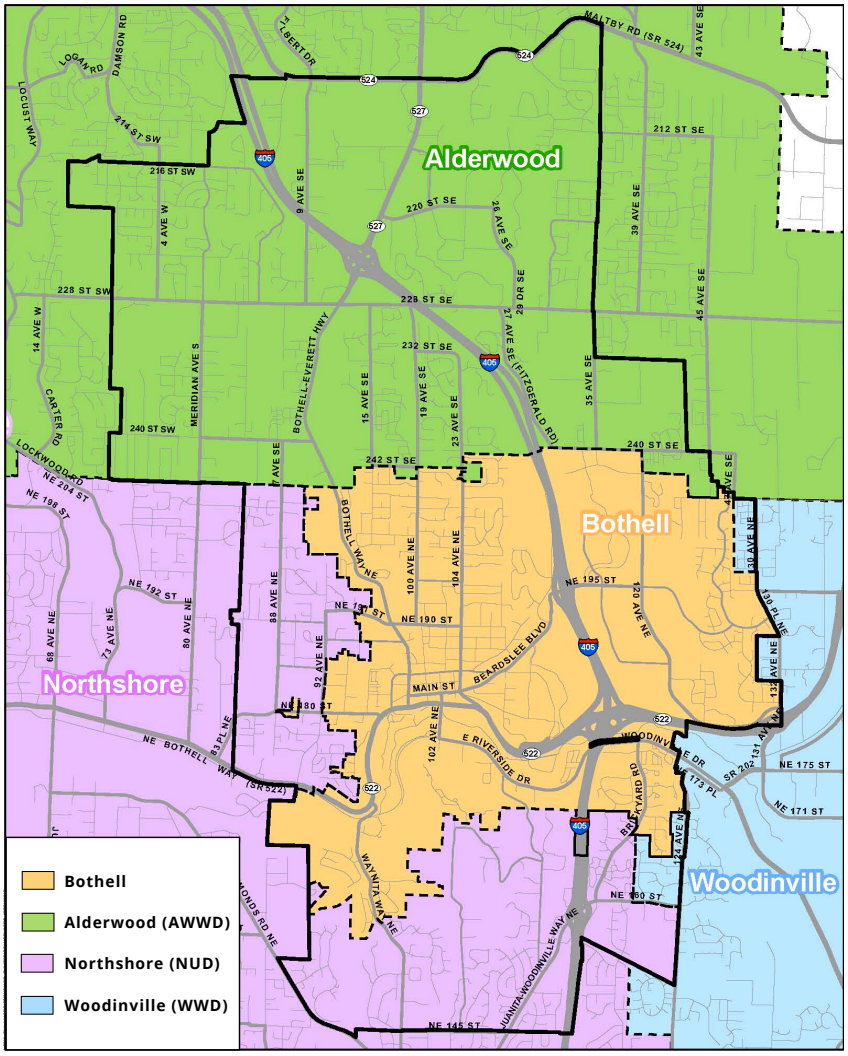
Saving Water Partnership
206-684-SAVE (7283)

Garden Hotline
206-633-0224

Get Involved

To learn more about your water and find a schedule of upcoming City Council meetings, please visit www.bothellwa.gov.

Water Districts



Translation Services

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